

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

MOTTRAM et al

Atty. Ref.: 604-589

Serial No. Unassigned

Group:

Filed: April 9, 2001

Examiner:

For: APPARATUS AND METHODS RELATING TO HUMIDIFIED AIR AND TO
SENSING COMPONENTS OF GAS OR VAPOUR

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April 9, 2001

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

PRELIMINARY AMENDMENT

Responsive to the Official Action dated (for which petition is hereby made
for a one month extension of time), please amend the above-identified application
as follows:

IN THE CLAIMS

Please substitute the following amended claims for corresponding claims
previously presented. A copy of the amended claims showing current revisions is
attached.

3. (Amended) A method as claimed in Claim 1 further comprising

providing a source of gas or air at a selected humidity level and passing a flow of the said gas or air through the sensor chamber.

5. (Amended) A method according to Claim 3 in which the step of adjusting the humidity in the sensor chamber includes measuring the humidity in the sensor chamber by a second humidity sensor, and varying the humidity of the said supply of humidified air until the humidity levels measured on the first and second humidity sensors are substantially the same as the said measured humidity of the sensor chamber.

6. (Amended) A method according to Claim 1 in which the step of measuring the humidity of the sample gas or vapour in the sample chamber is carried out by use of a third humidity sensor mounted for measuring the humidity in the sample chamber.

7. (Amended) A method according to Claim 1 wherein at least one of the said sensors is an olfactory sensor.

10. (Amended) Apparatus as claimed in Claim 8 further comprising a source of gas or air at a selected humidity level and a device for passing a flow of the said gas or air through the sensor chamber.

11. (Amended) Apparatus as claimed in Claim 1 wherein the sensor or sensors comprise at least one olfactory sensor.

15. (Amended) Apparatus according to Claim 13 in which the first air flow path includes a flow restrictor.

16. (Amended) Apparatus according to Claim 15, in which the flow restrictor is variable over a range including a restriction sufficient to balance the air flows in the first and second air flow paths.

17. (Amended) Apparatus according to Claim 15, in which the flow restrictor is a fixed restrictor introducing an air flow restriction approximately equal to the air flow restriction introduced by the humidifying means in the second air flow path.

18. (Amended) Apparatus according to Claims 16 in which the air flow restrictor has a fixed value, or is adjusted to a value, such that the time periods of the valve in the two states differ from each other by no more than a multiple of two, when the humidity sensed by the humidity sensor is close to a required level set by the control means.

19. (Amended) Apparatus according to Claim 12 including a mixing

vessel connected to receive air from the first air stream and the second air stream, the mixing vessel having an outlet for supplying combined air to further apparatus, and the humidity sensor being mounted to sense the humidity of air in the mixing vessel.

20. (Amended) Apparatus according to Claim 12 in which the said control means comprises a microprocessor connected to receive the said humidity level signal from the humidity sensor.

21. (Amended) Apparatus according to Claim 12 in which the control means includes a proportional integral differential controller for controlling the valve in response to the said humidity level signal from the humidity sensor.

22. (Amended) An assembly for analysing an exhalation comprising a sensor chamber

including sensors for producing a profile of the odour of a sample placed in the chamber, and apparatus for providing humidified air as set out in Claim 12, the humidified air apparatus being connected to supply humidified air of a selected level of humidification to the sensor chamber.

26. (Amended) A method according to Claim 3 including providing the said humidified air stream by the steps set out above.

REMARKS

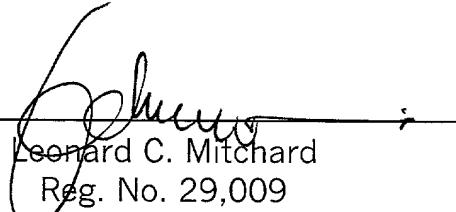
The above amendments have been made to place the application in a more traditional format.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages are captioned "**Version With**
Markings To Show Changes Made."

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

3. (Amended) A method as claimed in Claim 1 [or Claim 2] further comprising providing a source of gas or air at a selected humidity level and passing a flow of the said gas or air through the sensor chamber.

5. (Amended) A method according to Claim 3 [or Claim 4] in which the step of adjusting the humidity in the sensor chamber includes measuring the humidity in the sensor chamber by a second humidity sensor, and varying the humidity of the said supply of humidified air until the humidity levels measured on the first and second humidity sensors are substantially the same as the said measured humidity of the sensor chamber.

6. (Amended) A method according to [any of Claims 1 to 5] Claim 1 in which the step of measuring the humidity of the sample gas or vapour in the sample chamber is carried out by use of a third humidity sensor mounted for measuring the humidity in the sample chamber.

7. (Amended) A method according to [any preceding claim] Claim 1 wherein at least one of the said sensors is an olfactory sensor.

10. (Amended) Apparatus as claimed in Claim 8 [or Claim 9] further comprising a source of gas or air at a selected humidity level and a device for passing a flow of the said gas or air through the sensor chamber.

11. (Amended) Apparatus as claimed in [any preceding claim] Claim 1 wherein the sensor or sensors comprise at least one olfactory sensor.

15. (Amended) Apparatus according to Claim 13 [or 14] in which the first air flow path includes a flow restrictor.

16. (Amended) Apparatus according to Claim 15 [when including the features of Claim 13], in which the flow restrictor is variable over a range including a restriction sufficient to balance the air flows in the first and second air flow paths.

17. (Amended) Apparatus according to Claim 15 [when including the features of Claim 14], in which the flow restrictor is a fixed restrictor introducing an air flow restriction approximately equal to the air flow restriction introduced by the humidifying means in the second air flow path.

18. (Amended) Apparatus according to Claims 16 [or 17] in which the air flow restrictor has a fixed value, or is adjusted to a value, such that the time

periods of the valve in the two states differ from each other by no more than a multiple of two, when the humidity sensed by the humidity sensor is close to a required level set by the control means.

19. (Amended) Apparatus according to [any of Claims 12 to 18]

Claim 12 including a mixing vessel connected to receive air from the first air stream and the second air stream, the mixing vessel having an outlet for supplying combined air to further apparatus, and the humidity sensor being mounted to sense the humidity of air in the mixing vessel.

20. (Amended) Apparatus according to [any of Claims 12 to 19]

Claim 12 in which the said control means comprises a microprocessor connected to receive the said humidity level signal from the humidity sensor.

21. (Amended) Apparatus according to [any of Claims 12 to 20]

Claim 12 in which the control means includes a proportional integral differential controller for controlling the valve in response to the said humidity level signal from the humidity sensor.

22. (Amended) An assembly for analysing an exhalation comprising a

sensor chamber

including sensors for producing a profile of the odour of a sample placed in

the chamber, and apparatus for providing humidified air as set out in [any of Claims 12 to 21] Claim 12, the humidified air apparatus being connected to supply humidified air of a selected level of humidification to the sensor chamber.

26. (Amended) A method according to Claim 3 including providing the said humidified air stream by the steps set out [in accordance with Claim 25] above.